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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,614	09/25/2003	Frederick M. Discenzo	03AB070/ALBRP325US	6779

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EXAMINER


FRANK, RODNEY T

ART UNIT PAPER NUMBER

2856

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/670,614	DISCENZO, FREDERICK M.	
	Examiner	Art Unit	
	Rodney T. Frank	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-43 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-10, 12, 14, 17, 23, 25, 27, 30-33 and 44 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 11, 13, 15, 16, 18-22, 24, 26, 28, 29, 45 and 46 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Please disregard the non-final rejection mailed 29 November 2004, and utilize the following action on the merits. All periods of time for response have been restarted to correspond with this office action. The period of time has been restarted due to new prior art discovered by the examiner since the previous action. Please find the additional rejections as follows.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 recites the limitation "the machine" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Liang (U.S. Patent Number 6,792,798). Liang discloses the present invention discloses an acoustic resonator device capable of nucleating bubbles in a formation fluid under borehole-like conditions wherein the static pressure is higher than the bubble point pressure. The device is comprised of one or more coaxial layers forming a central conduit, wherein at least one of the coaxial layers is comprised of an electro-acoustic transducer material such as including piezoelectric or magnetostrictive materials. This device is preferably designed to be in fluid communication with a host tool to allow in-situ sampling and bubble point determination. Also disclosed is an in-situ method of fluid analysis in a borehole for determining phase characteristics of a formation fluid using the device. Cavitation may be induced using the device in either a captured volume sample or a flow-line sample (Please see the abstract).
4. With regard to claim 1, Liang discloses and shows in figure 8a, a system comprising a casing (100) that is immersed in a fluid, the casing comprising a plurality of apertures (160 and 150) that are opened to permit the fluid to enter the casing, and closed to confine a sample of the fluid within the casing; and a sensing element within the casing (10) that measures at least one parameter of the sample of the fluid confined within the casing.
5. In reference to claim 44, Liang discloses and shows in figure 8a a system comprising means for confining a sample of fluid within a casing; means for

measuring at least one parameter of the sample of fluid (10); and means for flushing the sample of fluid from the casing (150).

Claims 1, 25, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Lasseter (U.S. Patent Number 4,742,459). Lasseter discloses a method and apparatus are disclosed for determining hydraulic properties of formations surrounding a borehole. In one embodiment, trial values of hydraulic properties such as vertical and horizontal permeability are selected and used to obtain computed formation pressure responses that are compared to measured pressure responses taken at a source and two observation probe positions. Trial values can then be modified to bring the computed pressure responses closer to the measured ones. An improved technique is also disclosed for obtaining the computed pressure responses.

With regard to claim 1, Lasseter discloses and shows in figure 1 a fluid measurement system comprising a casing (121) with apertures (valves 173, 165, and 163, that are opened to allow fluid to enter the casing and closed to confine the fluid therein. The valves are connected to measurement chambers (169, 162) for measuring fluid parameters.

With regard to claim 25, figure 2 shows that a plurality of sensors are used in order to make analysis and since column 5 lines 58-62 disclose the use of a processor and preprocessing circuitry which would indicate that a data fusion technique is employed.

With regard to claim 27, since column 5 lines 58-62 discloses that some of the circuitry may be downhole, then a casing with a processor that effects data fusion measurements is disclosed as well.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, 6, 7, 9, 10, 14, 17, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang

8. In reference to claim 2, though the specific type of valve used in Liang is not disclosed, this is seen as a design choice that would be well within the preview of one of ordinary skill in the art

In reference to claim 3, the casing is disclosed to be used in a borehole tool, which is a type of probe and thus the sampler could be within the tip of said borehole tool.

In reference to claim 6, borehole tools are known to have power in order to power the electronics located within said tool, so this limitations would be obvious to one of ordinary skill in the art.

In reference to claim 7, though a display is not specifically disclosed, it would be well within the preview of one of ordinary skill in the art to provide a display in order to obtain the information that the sensor obtains.

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In reference to claim 9, though not specifically disclosed, the practice of heating or cooling a sample in a measurement system is a well established practice in the art and official notice is taken that the practice of heating and/or cooling a sample would be obvious to one of ordinary skill in the art at the time of the invention.

In reference to claim 10, though the use of a screen or filtering means is not specifically disclosed, this is a modification well within the preview of one of ordinary skill in the art since one would be motivated to provide a means to keep the apertures from getting clogged then the use of a screen or some filtering means would be obvious to one of ordinary skill in the art at the time of the invention.

In reference to claim 14, valve 150 would allow the fluid to be "flushed" from the casing.

In reference to claim 17, it is well established that most systems used to measure or detect anything employ a user interface in order for the measured information to be attained or displayed and therefore official notice is taken that a display means, would be obvious to one of ordinary skill in the art at the time of the invention, though the feature is not explicitly disclosed in the reference.

In reference to claim 31, on known parameter measured with a borehole type device is groundwater.

9. Claims 1, 3, 6, 7, 8, 14, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauth (German Patent DE 196 10 167). Bauth discloses a fully immersible measuring appts. is connected by wires to an energy source and data processing unit. The new unit determines chemical and/or physical magnitudes of

fluid media, e.g. of groundwater. The sensors are integrated into a cylindrical casing with a data logger (5). The casing consists of three detachable axial sections, one (2) for the data logger, one (4) for pressure measurement, and one intermediate section (3) surrounding a sensor unit with flow openings (18). Opt. the pressure measurement casing or the intermediate section is mounted directly onto the data logger housing (2), fluid tight (Please see translated abstract).

10. In reference to claim 1, Bauth discloses and shows in the figures, a system comprising a casing that is immersed in a fluid, the casing comprising a plurality of apertures (18). The openings in Bauth are shown in an open position. Though Bauth does not specifically disclose that the openings are opened to permit the fluid to enter the casing, and closed to confine a sample of the fluid within the casing, this would be a design choice well within the preview of on of ordinary skill in the art. Bauth goes on to describe sensing elements within the casing that measures at least one parameter of the sample of the fluid confined within the casing.

In reference to claim 3, the device is disclosed to o be an immersible probe and the system is shown located towards the end of the probe.

In reference to claim 6, borehole tools are known to have power in order to power the electronics located within said tool, so this limitations would be obvious to one of ordinary skill in the art.

In reference to claim 7, though a display is not specifically disclosed, it would be well within the preview of one of ordinary skill in the art to provide a display in order to obtain the information that the sensor obtains.

In reference to claim 8, Bauth is disclosed to perform a variety of physical and chemical measurements.

In reference to claim 12, though not specifically disclosed, the use of a screen would have been an obvious modification to one of ordinary skill in the art since it is well known that contaminants can cause obstruction and cause errors in fluid measurements, thus the use of a screen to filter out such things would be obvious to use.

In reference to claim 14, though not specifically disclosed, the device would have to flush the fluid at some point in order for the device to work for a subsequent measurement, so this limitation would be an obvious limitation of the device.

In reference to claims 30-32, the device is disclosed to be able to measure many liquids, and groundwater is mentioned specifically in the "use" section of the translated summary of the document.

In reference to claim 33, since the Bauth device is disclosed to store calibration factors, it would be also reason that the device would be able to create various models by which measurements are compared.

Allowable Subject Matter

11. Claims 4, 5, 11, 13, 15, 16, 18-22, 24, 26, 28, 29 45, and 46 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 34-43 are allowed.

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13. The following is a statement of reasons for the indication of allowable subject matter:

The method of either facilitating real-time in situ measurement, analysis, and specifically automatic maintenance of fluid or the method for reducing oxidation levels in a fluid, comprising the various steps in said claims, is not disclosed nor deemed obvious in view of the prior art of record.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The examiner has cited various references deemed relevant to the general state of the art of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (571) 272-2193. The examiner can normally be reached on M-F 9-5:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RTF

May 16, 2005

A handwritten signature in black ink, appearing to read "Hezron Williams", with a long horizontal flourish extending to the right.

HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800